RF Exposure Evaluation

A calculation based on the **FCC's Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01)** appears below.

This product was tested with three antenna types. An MPE assessment of the highest gain of each antenna type was performed.

Omnidirectional – 6dBi (28.6dBm max power into antenna)
Yagi – 16dBi (25.3dBm max power into antenna)
Parabolic – 24dBi (22.6dBm max power into antenna)

Sample Calculation (Omnidirectional)
Antenna Connector Power Output = 28.6dBm
Antenna Gain = 6dBi

EIRP = Pmax + Gant = 28.6 + 6 = 34.6dBm = 2885mW

The limit for General Population/Uncontrolled Exposure is

S [mW/cm^2] = 1.0

The distance from the antenna at which this radiation level will be reached is

$R=SQRT(EIRP/4\pi S)$

$R=SQRT(2885 / (4\pi \times 1))$ = 15.2cm

RESULTS
Distance indicated is the minimum distance required to meet the limits of 47CFR1.1310 for uncontrolled exposure.

Omnidirectional – 15.2cm (this will be indicated as 20cm in the user guide)
Yagi – 32.8cm
Parabolic – 60.3cm

A statement indicating the need for a safe separation distance appears in the installation manual for each antenna type. However, since the two directional antennas are for fixed outdoor use only, they will indicate a separation distance of 2m.